

## PROCEEDINGS OF THE SEMINAR

on

POST GRADUATE TRAINING IN SURGERY

for

**RESTRUCTURING CURRICULUM**

*14th and 15th April, 2000*

*Jointly organised by*

**ASSOCIATION OF SURGEONS OF INDIA**

and

**RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES, KARNATAKA**

Bangalore

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# **Proceedings of the Seminar on Post Graduate Training in Surgery**

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Bangalore**

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# CONTENTS

## Preface

Dr.S.Chandrashekhar Shetty, Vice Chancellor,  
Rajiv Gandhi University of Health Sciences, Karnataka,  
Bangalore.

## Why this Seminar ?

Dr.K.S.Shekhar  
President, Association of Surgeons of India

## Report of the Proceedings

## The Curriculum

### Goals

### Objectives

### Course content

- i) Essential knowledge
- ii) Operative Skills

### Teaching & learning activities

### Rotation and Posting in other departments

- i) Basic Sciences
- ii) Allied Speciality Subjects
- iii) Others Surgical Speciality Subjects

### Dissertation

### Evaluation

- i) Internal assessment
- ii) University Examination

## Post M.S. training and accreditation

## Recommended Books

## Recommendations

## Acknowledgement

## Annexure

1. Model checklists for Internal assessment-I to VIII
2. Format of Log Book
3. List of Participants
4. Programme
5. Groups
6. Group Discussion points
7. Programme Evaluation

## Preface

The Rajiv Gandhi University of Health Sciences, Karnataka, was established in June 1996. It is the third medical university in the country. One of the unique features of this university is that under one umbrella about 14 faculties belonging to medical, dental, nursing, Indian system of medicine etc. exist. Some 250 institutions spread over the entire state are under its purview. Earlier these institutions were affiliated to six conventional universities in the state.

The challenging tasks before the university were to bring about uniformity in regulations, course curriculum, examination pattern in under-graduate and post graduate courses on the one hand and to improve the quality of health professional education as well as to inculcate accountability on the other hand. Some progress had been made. The curriculum for the postgraduate courses in pre and para-clinical subjects were recently revised. The revision for clinical subjects was going on. It is at this opportune time that Dr. K. S. Shekar, President of Association of Surgeons of India, came up with the proposal of jointly holding a seminar to review and restructure the curriculum of M. S. General Surgery course. This provided a good opportunity for our university to join hands with a professional association. The response was overwhelming. Considerable efforts went into the preparation of background materials. The deliberations were interesting, free and frank. Very useful recommendations were made towards improving the quality of training not only during the course but even afterwards like Post M.S. Training.

I am particularly happy that goals and objectives were defined. Essential lists of knowledge and surgical skills were deliberated and finalised keeping in mind the technological advance. A list of objectives highlighting development of human values and ethical practice were formed. Model Check Lists designed by RGUHS were adopted. I congratulate Dr. K.S. Shekar, Dr. K. Lakshman, Dr. K.S. Gopinath and Dr. D.K. Srinivas in bringing out the proceedings at such a short time.

The Medical Council of India, State and Central governments should give serious consideration to the recommendations. I am sure that adoption and implementation of these recommendations will go a long way in not only bringing about uniformity but also in improving quality of post graduate education in Surgery.

**Dr. S. Chandrashekhar Shetty**

Vice – Chancellor

Rajiv Gandhi University of Health Sciences, Karnataka  
Bangalore

## WHY THIS SEMINAR ?

Nothing like personal experience. At every stage of acquiring a qualification, I found myself totally inadequate and ill equipped both in knowledge and skill to face difficult situations in clinical practice. But I was lucky to have a Government employment in one of the large hospitals in Bangalore, where I could operate extensively to improve my operative skills, and at the same time attend post graduate teaching programmes, as its co-ordinator, to improve my knowledge of the subject.

Situation has changed vastly since then. Number of post graduate students in each unit has increased, for various reasons. With increasing number of Medical Colleges coming up, availability of teachers has become less and less. Even the teachers present in many institutions have lost enthusiasm to teach, mainly due to poor remunerations offered to them and appalling service conditions. Worst scenario is that the students who pass have no job opportunities, denying them a chance to improve their skills. The present state is that a student who passes postgraduate education looks for another student-ship of higher education, not confident of surviving in the competitive world, with just one qualification.

The scenario in the rural India is quite different. Surgeons who practice in such situations, practice totally different specialty, many of which they hardly had opportunity to train themselves during their post graduate training. With greater compartmentalisation in teaching institutions, within the General Surgery itself, it is difficult for a post graduate to acquire adequate skill in most of the subspecialties within surgery. More over, a surgeon working in rural set up will have to do caesarean sections, hysterectomies, tonsilectomies, prostatectomies etc.,. If one cares to provide adequately trained surgeons to practice in rural India, his training aught to be total, in all branches of surgery, with adequate exposure to gynaecological surgery and anaesthesia.

It is needless to say that the training programmes in surgery in USA, U.K and other European countries have changed vastly, both in duration and content. Hence, it was considered necessary to rework the post graduate surgical training in our country as well. In Bangalore, we did considerable background work to justify our proposed line of action. We are fully aware that we cannot alter the admission policies to PG training programme which is governed by the political exigencies. So also the duration of the course which is governed by the M.C.I. rules. What can be done within these limitations ? We interacted with post graduate students. The students main objective is to pass the examination rather than acquiring knowledge and skill to justify their qualification. Discussions with 'just passed' post graduate students revealed their sad plight.

They were unanimous in requesting that Post M.S.Residency Programme should be started to enable them not only to acquire knowledge and skills, but also to make them economically independent. Questionnaire sent to surgeons practicing in rural India demanded that the surgical training should include adequate training in anaesthesiology and gynaecology. We had prolonged dialogue with current professors of surgery. Every one agreed that there is an urgent need to restructure the post graduate training programme, to make it more meaningful and effective. They also opined that post MS training is a must if one desire to set up private practice and Residency Programme should be introduced.

With this background work, the Rajiv Gandhi University of Health Sciences, Karnataka was approached to sponsor a seminar on post graduate training in surgery. While formulating the programme we chanced on Medical Council of India letter No.MCLI(i) 98 - Med/22233 of 23rd November 1998 addressed to The Presidents, all speciality Associations and the Government of India, Ministry of Health and Family Welfare letter dated 9th March 1999 to all universities. These letters exhort the universities in speciality Associations to provide detailed curriculum for each speciality training. Further the draft regulation on post graduate Medical Education prepared by M.C.I does not stress upon structured curriculum and graded responsibilities for post graduate training. Hence, it was considered that a seminar to Restructure Postgraduate Training in Surgery is a necessity and the Association of Surgeons of India and the Rajiv Gandhi University of Health Sciences, Karnataka ventured on this endeavour.

**Dr. K. S. Shekar**  
President,  
Association of Surgeons of India.

# **Report of Proceedings**

## **Introduction**

The Association of Surgeons of India (ASI) and the Rajiv Gandhi University of health Sciences (RGHU) jointly took the initiative to organize a seminar on Post Graduate Training in Surgery. The need for drawing up a comprehensive curriculum for the MS Degree Course in Surgery was recognized some time ago. The Medical Council of India had sent out a circular in November 1998, urging the Universities to draw up a detailed Curriculum. It was decided that a national level seminar be held for this purpose. The Seminar took place on 14<sup>th</sup> and 15<sup>th</sup> April 2000 at Bangalore. Wide participation of teachers from universities and the army, educationists, administrators and practicing surgeons was ensured. Around 80 delegates including two Vice Chancellors, Director of AIIMS, Delhi and Director of Health Services (Defense) took part in the deliberations. The Executive Committee of the ASI took an active part. (See Annexure 3 for list of participants)

## **Preparation of Background Paper**

A background paper was prepared with due care and distributed to the delegates for their perusal and opinion. Draft proposal for revision of curriculum were prepared and included in the background paper. This proposal was made on the basis of a situation analysis carried out by surveys done among students, teachers and practicing surgeons. The surveys included postal questionnaires, informal and formal group discussions. Each of these groups were asked about the deficiencies (if any) of the present system and possible remedies that they would suggest to correct these deficiencies.

There was unanimity among all groups about certain deficiencies in the present system. A wide range of suggestions for improvement were offered by various groups. Issues and suggestions that had some consensus among the groups, were included in the background paper. Another important input in drawing up the proposals was a study of the current patterns of training in UK, USA and Canada.

## **Contents of Background paper**

The background paper had proposals drawn up in a structured manner. The goals and objectives of the MS course were defined. The topics to be discussed were considered under the following headings:

1. Essential Knowledge – the theory topics that the student must know.
2. Essential Skills – The procedures that the student should be able to do at the end of the course; the procedures he should be familiar with in the form of assisting or watching.
3. Teaching and Learning activities – The process by which the essential knowledge and skills would be acquired.
4. Year wise schedule – the distribution of the various aspects of learning in the three years of training; the concept of graded responsibility
5. Training in Basic and allied specialities – the amount of applied aspects of basic science knowledge to be acquired and the training in allied specialties like anaesthesia, orthopaedics and Obstetrics and Gynaecology to be acquired.
6. Training in other (Super) Specialties – the type of training in other branches of surgery that a general surgeon should be familiar with.
7. Internal assessment – Continuing internal evaluation of the student's progress.
8. University Examination – the final MS examination.
9. Post MS training – the need for (if any) further training after completion of MS and the kind of and mechanisms of such training.

In addition to these core proposals, the background paper contained the MCI circular, MCI recommendations, Student and teacher perception, PG Subcommitte report, pattern of training in USA and UK, and the perception of a rural surgeon. Papers on topics on the design of a curriculum, and papers by selected specialists in the allied and super specialties were included.

## **The Seminar**

The morning session on Day 1 of the seminar included the inauguration and short talks. The seminar was inaugurated by Dr. S Chanrashekara Shetty, Vice Chancellor of Rajiv Gandhi University of Health Sciences (RGUHS), Karnataka, Bangalore and the President of Association of Surgeons of India, Dr. K S Shekar presided. (See Annexure 4 for programme)

## **Introductory talks**

- Introduction to components of a curriculum: Dr. D K Srinivas outlined the stages of drawing up a curriculum in terms of its meeting the goals and objectives of the course.

- Introduction to Objectives; Dr. Nandakumar Jairam spoke about the objectives of the MS Course and essential knowledge that needs to be acquired and the steps in achieving these objectives.
- Teaching and Learning Activities: Dr. K Lakshman gave a talk on the principles involved in adult learning and stressed on the importance of Competence Based Training.
- Introduction to evaluation: Dr. C R Ballal outlined the importance of objective and fair assessment of the learning process to ensure the training of competent surgeons. He stressed the importance of a continuous internal assessment throughout the course.
- Experience of Rural Surgeons: Dr. Dakshinamoorthy stressed the need for comprehensive training so that surgeons can meet the special challenges faced by them in the rural set up.

## **The Seminar – Group Discussions**

The afternoon of Day 1 was spent in group discussions. Nine groups were formed to discuss each of the topics outlined above.

Each group met under the Chairmanship of a senior surgeon. Members were selected with due attention to the topic assigned to the group. Two rapporteurs in each group took detailed notes of the proceedings and prepared a summary. This summary was presented the next day for discussion by the participants of the seminar.

## **The Seminar – Consensus**

Detailed and lively discussions took place and a consensus arrived at, on the morning of Day 2 of the Seminar. Each group presented a summary of the proposals pertaining to the group. Modifications were suggested for the proposals given in the background paper. The proposals were discussed by the whole group and a consensus was arrived at. The major issues arrived at, are incorporated in the “Recommendations”.

The seminar ended with thanks from the President of ASI for the efforts of all participants, resource persons and the Vice-Chancellors.

The restructured curriculum is a product of all these deliberations.

## Programme Evaluation

A programme evaluation proforma was sent to the participants. Thirty two responses were received. The results briefly stated were, that 27 participants (60%) considered the objectives of the seminar to be very useful and six felt that objectives were useful.

The participants said that good pre-workshop planning, presentations by resource persons, small cohesive groups, cordial and relaxed atmosphere during group discussion and location of venue, were some of the facilitating factors. The participation of University officials as well as surgeons and teachers from all over India and involvement of Association of Surgeons of India in this endeavor were also appreciated.

Majority of participants felt that there were no hindering factors. However, one participant each said that there should have been a representative from MCI, background papers should have been sent to them in advance and the duration of the seminar should have been two and half days.

Many suggestions were made, of which the commonest was that the revised curriculum arising out of the recommendations should be sent to the MCI and to all Universities for immediate implementation. Similar seminars and follow up meetings were suggested. Post M.S. training on the lines of existing residency scheme was strongly suggested. There were suggestions to reduce or restrict the number of students admitted to an institution for post graduate course in Surgery in order to improve training in surgical skills. "Evoke students to be curious to learn by themselves rather than be dependant on teachers" was one of the suggestions, which in fact, should be the goal and role of every teacher.

# The Curriculum

## Goals

The goals of postgraduate training course in Surgery would be to train a MBBS doctor who will:

- Practice surgery efficiently and effectively, backed by scientific knowledge and skill base;
- Exercise empathy and a caring attitude and maintain high ethical standards;
- Continue to evince keen interest in continuing surgical education irrespective of whether he is in a teaching institution or is a practicing surgeon;
- Be a motivated ‘teacher’ – defined as a surgeon keen to share his knowledge and skills with a colleague or a junior or any learner.

## Objectives of the Course

The following objectives are laid out to achieve the goals of the course. These objectives are to be achieved by the time the candidate completes the course. The objectives may be considered under the subheadings

1. Knowledge (Cognitive domain)
2. Skills (Psycho motor domain)
3. Human values, Ethical practice and Communication abilities

At the end of the training, the candidate must be able to:

### Knowledge:

- Describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children.
- Describe indications and methods for fluid and electrolyte replacement therapy including blood transfusion
- Describe common malignancies in the country and their management including prevention
- Demonstrate understanding of basic sciences relevant to general surgery
- Identify social, economic, environmental and emotional determinants in a given case, and take them into account for planning therapeutic measures.

- Recognize conditions that may be outside the area of his specialty/competence and to refer them to an appropriate specialist.
- Advise regarding the operative or non-operative management of the case and to carry out this management effectively.
- Update himself by self-study and by attending courses, conferences and seminars relevant to surgery.
- Teach and guide his team, colleagues and other students.
- Undertake audit, use information technology tools and carry out research, both basic and clinical, with the aim of publishing his work and presenting his work at various scientific fora.

## Skills

- Take a proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the surgical condition.
- Perform *minor* operative procedures and common general surgical operations independently and the *major* procedures with help from a senior surgeon.
- provide basic and advanced life saving support services (BLS & ALS) in emergency situations
- manage acute abdominal emergencies and poly trauma.
- Undertake thorough wound management, including burn wounds.
- Undertake complete patient monitoring including the preoperative and post operative care of the patient.

## Human values, Ethical practice and Communication abilities

- Adopt ethical principles in all aspects of his surgical practice. Professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- Develop communication skills, in particular the skill to explain various options available in management and to obtain a true informed consent from the patient.
- Provide leadership and get the best out of his team in a congenial working atmosphere.
- Apply high moral and ethical standards while carrying out human or animal research.
- Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed.
- Respect patient's rights and privileges including patient's right to information and right to seek a second opinion.

# Course Contents

## Essential Knowledge

A list of objectives related to knowledge and higher cognitive abilities that are expected to be achieved during the course is given. The course contents have been identified and categorized as essential knowledge as under. This is to enable the student to achieve the objectives of the course. It is recognized that General surgery today mainly covers abdominal operations, thyroid and breast diseases. A general surgeon should also have knowledge of some common problems in allied specialities. Further he should be familiar with complications, current controversies and recent advances in these topics.

The topics are considered under :

- Basic sciences,
- General Surgery topics and
- Speciality topics.

There will be an overlap between the General surgery and specialty categories.

**Basic sciences** include anatomy, physiology, biochemistry, microbiology and pathology, as found in current text books. These standard topics are recommended to be studies in as much as they are applicable to the practice of surgery. The stress is on anatomy of the parts dealt with by the surgeon as defined by the skills list; pathophysiology and surgical pathology.

**General Surgery Topics** include the following:

### History of surgery

**Clinical History and examination** – detailed systematic history taking, clinical examination of various systems, coming to a provisional working diagnosis.

**Rationale of diagnostic tests** – Ordering diagnostic tests with prioritizing the needs, based on the clinical, hospital and the patient's socioeconomic condition

**Informed consent / Medico legal issues** – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act. – Implications in a medico-legal case like accidents, assaults etc.

### Concept of Essential Drugs and Rational use of drugs

**Communication skills with patients** – Understanding clarity in communication, compassionate explanations and giving emotional support to at the time of suffering and bereavement.

**Principles of surgical audit** – Understanding the audit of process and outcome. Methods adopted for the same. Basic statistics

**Principles of evidence based medicine** – Understanding journal based literature study; the value of text book, reference book articles; value of review articles; original articles and their critical assessment. Understanding the value of retrospective, prospective, randomized controlled and blinded studies. – Understanding the principles and meanings of various biostatistical tests applied in these studies.

### Medical ethics / Social responsibilities of surgeons

**Use of computers in surgery** – Components of a computer; its use in practice – principles of word processing, spread sheet functions, database and presentation; the internet and its uses. The value of computer based systems in bio medical equipment.

### Health insurance, Health Care financing

Undertaking clinical audit

Prospective data collection / writing case reports and clinical papers

Giving presentations / Computer presentations

**Preoperative workup** – concept of fitness for surgery; basic medical workup; workup in special situations like, diabetes, renal failure, cardiac and respiratory illness; risk stratification;

### Principles of operative surgery like asepsis, antisepsis, sterilization

Surgical sutures, drains, prosthetic grafts

**Postoperative care** – concept of recovery room care; airway management; assessment of wakefulness; management of cardiovascular instability in this period; criteria for shifting to a ward; pain management.

**Basic surgical instrumentation** – Principles of surgical instrumentation; their maintenance and sterilization.

Surgical diathermy, lasers

**Wound management** – wound healing; factors influencing healing; basic surgical techniques; properties of suture materials ; appropriate use of sutures.

**Assessment of head, chest and abdominal trauma and triage** – Assessment of a trauma victim; resuscitation; care at the site; triage; care in the accident department; criteria for immediate surgery; immediate workup and logical referral criteria.

**Fluid and electrolyte balance / Acid – Base metabolism** – The body fluid compartments; metabolism of water and electrolytes; factors maintaining homeostasis; causes for and treatment of acidosis and alkalosis.

**Blood transfusion** – Blood grouping; cross matching; blood component therapy; complications of blood transfusion; blood substitutes; auto transfusions; cell savers.

**Surgical infections** – asepsis and antisepsis; microbiological principles; rational use of antibiotics; special infections like synergistic gangrene and diabetic foot infections. Hepatitis and AIDS

**Surgical nutrition** – nutritional assessment; metabolic response to stress; need for nutritional support; enteral nutrition; routes of access to GI tract; parenteral nutrition; access to central veins for nutritional support.

**Principles of laparoscopy / GI endoscopy** – laparoscopic instrumentation; physiology of pneumoperitoneum; complications of laparoscopy; diagnostic and therapeutic applications.

GI endoscopic instrumentation; Diagnostic and therapeutic applications of upper GI, Lower GI and ERCP studies.

**Principles of oncology** – cell kinetics; causation of tumours; principles of oncologic surgery, radiotherapy and chemotherapy; paraneoplastic syndromes; cancer pain management; palliative care

**Principles of burn management** – types of thermal injury; assessment of extent; immediate management; late management; skin cover; rehabilitation

**Principles of fracture management** – fracture healing; principles of immobilization; complications; principles of internal fixation.

**Airway obstruction / management** – anatomy of the airway; principles of keeping the airway patent; mouth to mouth resuscitation; oropharyngeal airway; endotracheal intubation; crico-thyroidotomy; tracheostomy.

**Shock and Pulmonary failure** – types of shock; diagnosis; resuscitation; pharmacologic support; ARDS and its causes; prevention; ventilatory support.

**Anaesthesia** – stages of anaesthesia; pharmacology of inhalational, intravenous and regional anaesthetics; muscle relaxants

**Assessment of trauma;** Multiple injured patient/ closed abdominal and chest injuries / penetrating injuries; fractures pelvis; urological injuries; vascular injuries; trauma scores

**Acute abdomen** – Appendicitis / Peritonitis / Perforated viscus / Intestinal obstruction

**Hernias** – simple and complicated – various types of hernias; their repair; prosthetic materials

**Critical care** – Cardiorespiratory failure – management of shock; including monitoring; sepsis scores; pharmacological support.

**Pain control** – acute and chronic pain; cancer and non-cancer pain; patient controlled analgesia.

**Breast disease** – benign and malignant disease; diagnosis; investigation; screening for cancer; genetics of breast cancer

**Thyroid disease** – solitary nodule; investigations; multinodular goiter; Hashimoto's disease; cancer

Upper GI disease – oesophageal and gastro-duodenal disorders

Hepato-biliary disease

Pancreatic disease

Colo-rectal disease / Anal disease

Soft-tissue neoplasms

Endocrine disease

**The specialty topics include the following**

**GI endoscopy and Laparoscopy:**

Principles of GI endoscopy

Complications including infective considerations

Diagnostic and therapeutic GI endoscopy including upper GI, lower GI and pancreatico-biliary systems

Physiology of pneumoperitoneum

Diagnostic laparoscopy

Laparoscopic therapeutic procedures

Head and neck trauma; acute management and rehabilitation

Concept of brain death / medico-legal implications

Peripheral nerve injuries

Neoplasms of the brain and meninges

Acute and chronic infections of the brain and meninges

Hydrocephalus

Spinal injuries

Monitoring intracranial tension

## Urology

Urological injuries

Urothelial tumours / Chemotherapy

Prostatic hypertrophy

Hypospadias

Pyelonephritis / perinephric abscess

GU tuberculosis

Scrotal disease

Endourology

Peritoneal dialysis / CAPD / haemodialysis

Transplantation / harvesting kidney

Urinary diversion

Infertility / Vasectomy

Pyeloplasty / hydronephrosis

## Oncology

- Breast, thyroid and GI malignancies
- Chemotherapy / Adjuvant therapy
- Head and neck tumours
- Imaging CT/ MRI CT guided FNAB/C
- Post excision reconstruction
- Radiotherapy

## Plastic Surgery

- Burns management
- Cleft lip and palate
- Congenital defects of hand
- Details of skin flap
- Facial injuries
- Hand injuries / tendon injury
- Hypospadias
- Nerve repair
- Pressure sores
- Principles of microsurgery
- Principles of tissue transfer
- Vascular repair

## Cardio-thoracic surgery

- Flail chest / thoracic trauma
- Bronchogenic carcinomaLobectomies
- Pneumonectomy
- Endocarditis prophylaxis

Pulmonary function tests

Control of major haemorrhage

Operations on the diaphragm

Coronary artery disease

Valvular heart disease

Lobectomies and pneumonectomies

Oesophageal disease

Operations on thoracic aorta

Mediastinal tumours

Basics of congenital heart disease

## Vascular Surgery

Vascular imaging

AV malformations

Exposure of major arteries and veins / vascular anastomosis

Varicose veins

Chronic venous insufficiency.

Vascular emergencies – trauma, embolism

Peripheral vascular disease – Atherosclerosis, arteritis

Details of vascular prosthesis

## Paediatric Surgery

Fluid and electrolyte management

Preparation for surgery / postop care

Hernias

Spinal fusion defects

Ventral defects

Undescended testis
Hypertrophic pyloric stenosis
Hirschsprung's disease
Diaphragmatic hernia
Tracheo oesophageal fistula
Anorectal anomalies
Necrotising enteritis

## Gynaecological Surgery

Pelvic inflammatory disease
Ectopic pregnancy
Ovarian Cysts
Caesarean section
Family planning

## Operative Skills

The group arrived at a consensus and recommended a list of operative procedures. It was also recommended that graded responsibility be given depending upon on the knowledge and the skills already acquired by the student. The year wise distribution of the skills recommended were to be used as a general guideline and some overlap was inevitable. Provision for training in various specialty subjects has been made during the second year of the course. Skills in specialty subjects may be acquired both during the specialty posting and during the general surgical postings in the parent department, if the procedures are carried out. The list within the tables, indicates the surgical procedures that the student should, by the end of the course, be able to perform independently (PI) by himself/herself or should have performed with assistance (PA) during the course. The other categories of surgical procedures mentioned form a general guide for the procedures that the student should either have observed (O) or have assisted the operating surgeon (A). Note, for all categories, the student washes up in the operating room. After considerable discussion, it was decided to prescribe a minimum number for each of the procedures to be performed or assisted by the candidate, as a recommendation. There may be an overlap in the skill list between the general surgery list and the specialty list. Where different numbers are

mentioned for the same/similar procedures between the general surgery and specialty lists, the higher number is applicable as the prescribed number. (Note that the total number is not the sum of the numbers mentioned for the same/similar procedure in the general surgery and specialty lists.)

Skills may be considered under the following headings.

- a) Basic graduate skills
- b) Ward procedures
- c) ICU procedures
- d) Emergency room procedures
- e) Preoperative workup procedures
- f) Postoperative procedures
- g) Minor surgical procedures
- h) Major operating room techniques
- i) General surgical procedures
- j) Speciality surgical procedures

### **a) Basic graduate skills**

The student should have acquired the certain skills during his undergraduate and internship. These skills have to be reinforced at the beginning of the training period. These skills include:

Procedure	Category	Year	Number
Insertion of I.V.lines , nasogastric tubes, urinary catheters, etc.,	PI	I	50
Minor suturing and removal of sutures	PI	I	50
Removal of tubes and drains	PI	I	50
Routine wound dressings	PI	I	50

## b) Ward Procedures

Ward work forms an important part of the training of the surgeon. In addition to the routine examination of the patient with proper recording of findings, diligent practice of the following is recommended.

Procedure	Category	Year	Number
Abdominal Paracentesis including Diagnostic Peritoneal Lavage	PI	I	5
Ability to teach UG's and Interns	PI	I	NA
Blood sampling – venous and arterial	PI	I	NA
Bone Marrow Aspiration	PI	I	2
Burns dressing	PI	II	10
Communication skills with patients, relatives, colleagues and paramedical staff	PI	I	NA*
Ordering of the requisite laboratory and Radiological investigations and Interpretation of the reports in light of the clinical picture	PI	I	NA
Proficiency in common ward procedures	PI	I	NA
Skills for Per-rectal examination and Proctoscopy	PI	I	NA
Thoracocentesis	PI	II	5
Universal precautions against communicable diseases	PI	I	NA
Venesection	PI	I+II+III	5

NA: Not Applicable

## c) ICU Procedures:

Procedure	Category	Year	Number
Insertion of Arterial lines	PI	II	10
Insertion of Central venous lines	PI	I	10
Insertion of Endotracheal tubes	PI	II	10
Insertion of Peritoneal Dialysis Catheters	A/PA	I, II, III	5
Intercostal Drainage	PI	II	5
Suprapubic Puncture/ Stab Cystostomy	PI	II	5
Tracheotomy	PI	I	2
Working Knowledge of Ventilators and various Monitors	PI	I	NA
Interpretation of Arterial blood gases	PI	I	NA
Correction of Electrolyte disturbances	PI	I	NA
Prescribing Parenteral & Enteral nutrition	PI	I	NA

## d) Emergency Room Procedures

Operative Skills

Procedure	Category	Year	Number
Application of Splints for Fractures	PI	I	NA
Arterial and Venous Lines	PI	I	NA
Assessment and initial management of Polytrauma	PI	I	NA
Cardiopulmonary Resuscitation	PI	I	NA
Management of Airway Obstruction	PI	I	NA
Management of Shock and Cardiac / Respiratory failure	PI	I	NA
Recognition and Initial management of Surgical Emergencies	PI	I	NA
Suturing Techniques	PI	I	NA

## e) Pre-operative Workup

Procedure	Category	Year	Number
Ability for adequate pre-operative preparation in special situations like Diabetes, renal failure, cardiac and Respiratory failure etc. and risk Stratification	PI	I	NA
Communication skills with special reference to obtaining Informed Consent	PI	I	NA
Proper pre-operative assessment and preparation of patients including DVT prophylaxis, Blood transfusion and Antibiotics	PI	I	NA

## f) Post-operative Care

Procedure	Category	Year	Number
Airway management	PI	I	NA
Basic Physiotherapy	PI	I	NA
Management of epidural analgesia	PI	I	NA
Management of Fistulae	PI	I	NA

Management of postoperative hypo and hypertension	PI	I	NA
Postoperative pain control	PI	I	NA
Skills for Nutritional rehabilitation of patients	PI	I	NA
Skills for proper Fluid & Antibiotic management	PI	I	NA
Stoma care	PI	I	NA

### g) Minor O.T. procedures

Procedure	Category	Year	Number
Circumcision under Local Anesthesia	PI	I	5
Drainage of Abscesses	PI	I	5
FNAC	PI	I	5
Major dressings	PI	I	20
Minor Anorectal Procedures ( Haemorrhoids – Banding, Cryotherapy, suturing etc. ; Anal dilatation and Fissures), Fistulectomy	PI	III	10
Minor Biopsies – Lymph node, ulcer, swellings etc.,	PI	I	20
Reduction and plaster application of simple fractures and dislocations	PA	II	10
Removal of simple subcutaneous swellings	PI	I	10
Sigmoidoscopy and Upper G.I. endoscopy ( preferable in and endoscopy room)	PA/A/O	II	10
Suturing Techniques	PI	I	20
Vasectomy	PI/PA	I	5
Wound debridement	PI	I	10

## h) Major Operating room techniques

Procedure	Category	Year	Number
Instrument arrangement and trolley layout	PA	I	NA
Skills in Sterilization techniques, O.T.Layout and Asepsis	O	I	NA
Skin preparation – painting and draping	PI	I	NA
Technique of scrubbing and gowning	PI	I	NA

## i) General Surgical Operative Procedures

Procedure	Category	Year	Number
Appendicectomy	PA	I	10
Appendicectomy	PI	III	5
Cholecystectomy	PI and PA	III	1 and 3
Closure of Colostomy	PA	III	2
Closure of peptic ulcer / under-running bleeding ulcer / vagotomy drainage	PI	III	3
Colostomy	PA	III	2
Cysts and sinuses of the neck	PA	III	2
Diagnostic laparoscopy	PA	III	3
Drainage of breast abscess / Excision of breast lump	PI	I	10
Groin Hernia repair	PI	II / III	5
Gynaecomastia	PA	III	2
Haemorrhoidectomy / Fissurectomy / simple fistulectomy	See Minor OT procedures		
Hemicolecotomy	PA	III	1
Herniotomy / Orchidopexy in children	PA	III	3
Laparotomy for abdominal trauma / splenectomy	PI	III	3
Laparotomy for intestinal obstruction / bowel resections / bowel anastomosis	PI	III	3
Management of complex wounds	PI	I	10
Mastectomy	PA/A	III	2

Opening and closing the abdomen	PI	I	5
Opening and closing the chest	PI	II / III	1
Parotidectomy	A	III	2
Release of bands and simple adhesive obstruction	PI	II	5
Thyroid lobectomy	PA	III	3
UGI endoscopy / Flexible sigmoidoscopy	A/O	II / III	10
Ventilation	PI	II	5
Wide excision of breast tumours / mastectomy / microdochectomy	PA	III	3
Gastrostomy / Feeding jejunostomy	PA	III	3

### j) Speciality Procedures

There will be repetition of the procedures listed under this category and those listed under General surgical procedures. The recommended total number is the higher number shown against the same/similar procedure.

### Laparoscopy And GI Endoscopy

Procedure	Category	Year	Number
Diagnostic and therapeutic Upper and Lower GI endoscopy	PA	III	10
Diagnostic laparoscopy	PA	III	3
Diagnostic Upper GI endoscopy	PA	III	10
Laparoscopic Cholecystectomy	A	III	3

### Neurosurgery

Procedure	Category	Year	Number
Craniotomy	A	II	2
Management of paraplegia	A	II	2
Peripheral nerve repair	A	II	2
Prevention of nerve injury – specific operations	A	II	2
Suturing complex scalp wounds	PI	II	2
Trephining	PA	II	2

## Urology

Procedure	Category	Year	Number
Carcinoma penis	PA/A	II	3
Catheterization	PI	I	NA
Circumcision	PI	I	10
Diagnostic cystoscopy	PA/A	II	3
Inguinal Block Dissection	PA	II	1
Meatotomy	PI	II	3
Nephrectomy – partial / total	A	II	3
Nephrolithotomy	A	II	3
Orchidectomy	PA/A	II	3
Orchidopexy	A	II	3
Retroperitoneal lymph node dissection	O	II / III	1
Supra pubic cystostomy	PI	II	3
Total amputation of penis	A	II	1
TUR / Open prostatectomy	A	II	5
Ureterolithotomy	A	II	3
Urethral / Urogenital injuries	A	II	3
Urethral dilatation	PI	II	5
Varicocele	PA/A	II	3
Vasectomy	PI	I / II / III	10

## Oncology

Procedure	Category	Year	Number
All radical operations – Breast, Thyroid, GI and Facio-maxillary malignancies	A	II	2 EACH
Breast lumpectomy	PI	II	5
Functional neck node dissection	A	II	3
Gastrectomy / Bowel resection	A	II	3
Imprint cytology	PA	II	3
Metastatic workup	PA	II	5

Stoma care	PI	II	5
Thyroid surgery	A	II	5
U/s guided biopsy	A/O	II	3

## Plastic Surgery

Procedure	Category	Year	Number
Burn resuscitation	PI	I	5
Lip surgery	A	II	5
Local blocks in anaesthesia	PI	I	10
Minor hand injuries (specify)	PI	II	5
Nerve repair	A	II	2
Post excision reconstruction	A	II	2
Reimplantation of digits	O	II	1
Skin flap surgery	O	II	2
Split skin graft	PI	II	3
Stitch craft	PI	I	NA
Tendon repair	PA	II	2
Wound debridement	PI	I	10

## Paediatric Surgery

Procedure	Category	Year	Number
Anorectal anomalies	A	II	2
Circumcision / meatoplasty	PA	II	10
Herniotomy	PA	II / III	2
Intercostal aspiration	PI	II	2
Laparotomy for peritonitis	PA	II	5
Lymph node biopsy	PI	II / III	5
Non operative treatment of volvulus	A/O	II	2
Orchidopexy	PA/A	II	5
Ostomies	PA	II	2
Paediatric emergencies	A/PA	II	10
pyloromyotomy	PA/A	II / III	5

## Cardiothoracic Surgery

Procedure	Category	Year	Number
Canulation of artery and vein	A	II	2
Chest injuries	PA	II / III	5
Empyema drainage / decortication	PI	II	2
Endotracheal intubation	PI	I	10
Intercostal drainage	PI	I	5
ITU duties	PI	II / III	NA
Lobectomies and pneumonectomies	O	II	2
Oesophageal surgery	O	II / III	2
Opening and closing the chest	PA	II	2
Operations on the root of the neck	A	II / III	2
Pericardectomy	O	II	2
Removal of FBs	A	II / III	2
Remove pulse generator (pacing)	PA/A	II	1
Rib resection	PA	II / III	2
Tracheostomy	PI	III	5
Undertake sternotomies	PA	II / III	2
Vein and arterial harvesting	PA/A	II / III	2
Ventilator management	PA	I	10

## Vascular Surgery

Procedure	Category	Year	Number
AV shunts for vascular access	PA	II / III	2
Bypass graft - prosthetic	A	II / III	2
Conservative amputations	PI	II / III	5
Embolectomy	PA	II / III	2
Post-traumatic aneurysms	A	II / III	2
Sympathectomy	PA	II / III	2
Use of heparin	PI	II / III	10
Varicose vein surgery	PI	II / III	2
Vascular suturing	PA	II / III	2
Vein graft	A/O	II / III	2
Vein patch repair	A/O	II / III	2

# Teaching and Learning Activities

A candidate pursuing the course should work in the institution as a full time student. No candidate should be permitted to run a clinic/laboratory/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

A list of teaching and learning activities designed to facilitate students acquire essential knowledge and skills outlined is given below. Depending on the facilities available, any or all of these methods may be employed.

1. **Lectures** : Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.

a) Didactic Lectures: Recommended for selected common topics for post graduate students of all specialities. Few topics are suggested as examples:

- 1) Bio-statistics
- 2) Use of library
- 3) Research Methods
- 4) Medical code of Conduct and Medical Ethics
- 5) National Health and Disease Control Programmes
- 6) Communication Skills etc.

These topics may preferably taken up in the first few weeks of the 1st year

b) Integrated Lectures: These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes mellitus, Thyroid etc.

2. **Journal Club** : Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must make a presentation from the allotted journal(s) of selected articles at least four times a year and a total of 12 presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment ( See Checklist I of Internal Assessment) A time table with names of the student and the moderator should be announced at the beginning of every year.

3. **Subject Seminar:** Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must present on selected topics at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment ( See Checklist II of Internal Assessment). A timetable for the subject with names of the student and the moderator should be scheduled at the beginning of every year.
4. **Student Symposium:** Recommended as an optional multi disciplinary programme. The evaluation may be similar to that described for subject seminar.
5. **Ward Rounds:** Ward rounds may be service or teaching rounds.
  - a) **Service Rounds:** Postgraduate students and Interns should do ward rounds every day for the care of the patients. Newly admitted patients should be worked up by the PGs and presented to the seniors the following day.
  - b) **Teaching Rounds :** Every unit should have ‘grand rounds’ for teaching purpose. A diary should be maintained for day to day activities by the students.

Entries of (a) and (b) should be made in the Log book.
6. **Clinico-Pathological Conference:** Recommended once a month for all post graduate students. Presentation be done by rotation. If cases are not available due to lack of clinical postmortems, it could be supplemented by published CPCs.
7. **Inter Departmental Meetings:** Strongly recommended particularly with departments of Pathology and Radio-Diagnosis at least once a week. These meetings should be attended by post graduate students and relevant entries must be made in the Log Book.
 

**Pathology:** A dozen interesting cases may be chosen and presented by the post graduate students and discussed by them as well as the senior staff of Surgery department. The staff of Pathology department would then show the slides and present final diagnosis. In these sessions the advance immuno-histo-chemical techniques, the burgeoning markers other recent developments can be discussed.

**Radio-diagnosis:** Interesting cases and the imaging modalities should be discussed.
8. **Teaching Skills:** Post graduate students must teach under graduate students ( B; medical, nursing) by taking demonstrations, bed side clinics, tutorials, lectures etc.

Assessment is made using a checklist by surgery faculty as well students. (See mode check list in Checklist ). Record of their participation be kept in Log book. Training of post graduate students in Educational Science and Technology is recommended

9. **Continuing Medical Education Programmes (CME)** : At least 2 state level CME programmes should be attended by each student in 3years.
10. **Conferences**: Attending conferences is optional. However it should be encouraged
11. **Dissertation**

Every candidate pursuing MS degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation. (Please see further details in pages 33 and 34).

# **Rotation and posting in other departments**

The listed knowledge and skills are to be learnt over a period of 3 years. The process is a continuous one. However the recommended period and timing of training in basic subjects, allied departments and speciality departments are given below.

In the first year, during the morning session, student should work in the parent department. It is recommended that 2 years and 4 months be spent in General Surgery and 8 months in allied and specialty departments. Depending on the time and opportunities available, some of the procedures listed for second year activity can be shifted either to the first or the third year. Students must be 'on call' on a regular basis. The total duration of postings in core and other specialities will be eight months.

## **Basic Sciences**

Basic science should be an essential part of training. It should be done as concurrent studies during the 1<sup>st</sup> year of training. At least two hours daily may be in the first six months of the course.

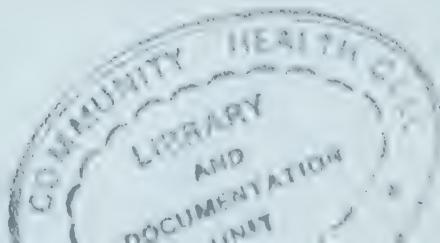
In the afternoons basic science teaching relevant to surgery can be done in the respective departments.

Topics for study to include Anatomy, Physiology, Pathology, Microbiology, Pharmacology, Anaesthesia and Radiology

Pathology – Concurrent study - Recommend daily Grossing sessions, weekly Surgical pathology sessions and monthly Clinico Pathological Conferences. Radiology – Concurrent study – adequate exposure to modern imaging modalities like ultrasound sonography, CT scan, MRI and angiography.

## **Allied Specialty Subjects**

Students should be posted to core allied speciality subjects Viz. Anaesthesia and ICU for one month and Orthopaedics including trauma (accident and emergency) for 2 months during the second year of training. Posting to the Department of Obstetrics and Gynaecology for one month is optional. This posting may be in lieu of one of the other specialties (except the core specialties) depending on the choice of the candidate.



## Other Surgical Speciality Subjects

Postings to other speciality departments will be during the second year. The departments and duration of postings are as under:

<b>Department</b>	<b>Duration</b>
● Paediatric surgery	4 wks
● Plastic surgery	4 wks
● Urology	4 wks
● Oncology	4 wks
● Cardiothoracic surgery	2 wks
● Neurosurgery	2 wks

# **Dissertation**

1. The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.
2. Every candidate shall submit to University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.
3. Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.
4. The dissertation should be written under the following headings:
  - i. Introduction
  - ii. Aims or Objectives of study
  - iii. Review of Literature
  - iv. Material and Methods
  - v. Results
  - vi. Discussion
  - vii. Conclusion
  - viii. Summary
  - ix. References
  - x. Tables
  - xi. Annexure
5. The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other Checklists. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

6. Four copies of dissertation thus prepared shall be submitted to the University, six months before final examination on or before the dates notified by the University.
7. The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.
8. **Guide:** The academic qualification and teaching experience required for recognition by this University as a guide for dissertation work be as per Medical Council of India Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Lecturer or Assistant Professor gained after obtaining post graduate degree shall be recognised as post graduate teachers.  
A **Co-guide** may be included provided the work requires substantial contribution from a sister department or from another medical institution recognised for teaching training by the University /Medical Council of India. The co-guide shall be a recognised post graduate teacher
9. **Change of guide:** In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the university.

# EVALUATION

The evaluation of learning outcome of trainees consists of :

- a) **Internal assessment** (Formative evaluation)
- b) **University examination** (Summative evaluation) for assessment of learning outcome at the end of course for award of degree.
  - (a) **Internal assessment** is essential for monitoring learning progress through continuous appraisal and regular assessment. It also helps teachers to evaluate students, students to evaluate themselves, helps rationalize performance in the examination and to differentiate between candidates of otherwise equal performance in the examination.

Formal evaluation is done by the staff of the department based on participation of students in various the teaching / learning activities. The evaluation is structured on the basis of checklists that evaluate these various aspects. Examples of such checklists are given in Annexure 1 to serve as a guide for the assessment.

The learning outcomes to be assessed should include: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, (iv) Teaching skills and (v) Dissertation.

- i) **Personal Attitudes.** The essential items are:

- Caring attitudes
- Initiative
- Organisational ability
- Potential to cope with stressful situations and undertake responsibility
- Trustworthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

ii) **Acquisition of Knowledge** : The methods used comprise of 'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so desired.

**Journal Review Meeting ( Journal Club):** The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist ( see Model Checklist – I, Annexure 1 )

**Seminars / Symposia:** The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist ( see Model Checklist – II, Annexure 1 )

**Clinico-pathological conferences :** This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar. .

**Surgical Audit:** Periodic morbidity and mortality meeting must be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

### (iii) **Clinical and operative skills**

**Day to Day work :** Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist III, Annexure 1 ).

**Clinical meetings :** Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list ( see Model Checklist IV Annexure 1).

**Operative skills :** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Annexure 2)

(iv) **Teaching skills :** Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment

by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Annexure 1)

(v) ***Dissertation in the Department*** : Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the University for registration, again before finalisation for critical evaluation and another before final submission of the completed work ( See Model Checklists VI & VII, Annexure 1 )

All assessment must be periodic and by the departmental staff.

vi) ***Periodic tests*** : Tests must be based on problem based short essay questions or objective questions for assessment of theoretical knowledge. For the assessment of clinical skills separate clinical examination be held using both long and short cases. The minimum number of tests recommended are three preferably at the end of I and II and three months before completion of the course.

## **Log book**

The log book is a record of the important activities of the candidate during his training. Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

**Format for the log book** for the different activities is given in Tables 1, 2 and 3 of Annexure 2. Copies may be made and used by the institutions.

***Procedure for defaulters:*** Every department should have a committee to review such situations. The defaulting candidate is counselled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

## **b) University examination**

***Eligibility:*** The following requirements should be fulfilled by every candidate to become eligible to appear for the final examination.

***Attendance, Progress and Conduct:*** Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and

ii) ***Acquisition of Knowledge*** : The methods used comprise of ‘Log Book’ which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

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***Surgical Audit:*** Periodic morbidity and mortality meeting must be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

### ***(iii) Clinical and operative skills***

***Day to Day work :*** Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates’ sincerity and punctuality, analytical ability and communication skills (see Model Checklist III, Annexure 1 ).

***Clinical meetings :*** Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list ( see Model Checklist IV, Annexure 1).

***Operative skills :*** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Annexure 2)

***(iv) Teaching skills :*** Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment

by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Annexure 1)

(v) ***Dissertation in the Department*** : Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the University for registration, again before finalisation for critical evaluation and another before final submission of the completed work ( See Model Checklists VI & VII, Annexure 1 )

All assessment must be periodic and by the departmental staff.

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## **b) University examination**

***Eligibility:*** The following requirements should be fulfilled by every candidate to become eligible to appear for the final examination.

***Attendance, Progress and Conduct:*** Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and

lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

Every candidate shall maintain a work diary and Log Book for recording his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate. The work diary and Log Book shall be verified and certified by the Head of the Department and Head of the Institution and among other things forms the basis for certifying satisfactory progress. The Log Book if demanded be presented in the university clinical or viva-voce examination.

Every candidate should have fulfilled the minimum attendance requirement prescribed by the Medical Council of India and respective University ( 80% of the training during each academic year of the post graduate course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year).

The dissertation work should have been accepted by university appointed examiners.

Any student who fails to complete the course in the manner stated above should not be permitted to appear for the University Examinations.

## **Scheme of Examination**

The examination shall consist of :

- Prior evaluation of dissertation,
- written papers (theory),
- clinical examination and
- viva- voce.

*Dissertation:* Every candidate shall carryout work and submit a dissertation. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

*Written Examination (Theory):* Written examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Basic medical sciences and recent advances may be asked in any or all the papers.

*Clinical Examination:* It should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine atleast one long case and two short cases. The total marks for clinical examination shall be 200.

*Viva Voce:* Viva Voce Examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be as under:

(i) For examination of all components of syllabus	80 Marks
(ii) For Teaching skills (Pedagogy)	20 Marks

*Examiners:* There shall be at least four examiners. in each subject. Out of them two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

*Criteria for declaring as pass in University Examination:* To pass in the University examination, a candidate shall secure in theory examination, an aggregate of 50% of total marks prescribed for the four theory papers, provided the candidate has secured a minimum of 40% of total marks prescribed for each paper, and 50% of total marks prescribed for practical/clinical including viva-voce examination. Further, a candidate shall secure the minimum 50% of marks in each of the two components, i.e. theory and practical/clinical including viva-voce separately in the same examination to be declared as pass. A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination.

## Post MS Training and Accreditation

It is now generally felt that three years is rather short period to train a surgeon capable of practicing independently as a consultant. The group discussed this issue at length and considered mainly three options :

- (1) to increase the duration of training by two years;
- (2) to introduce a system of post MS training in all the colleges similar to the existing Residency Scheme in Central Government hospitals/institutions;
- (3) to make Post MS training as optional and allow in addition to teaching hospitals non teaching hospitals and even individual surgeons to provide such a training.

The implications of all the above options were deliberated and following decisions were arrived at.

Increasing the duration of existing course would have several implications - economic, administrative and academic. The Medical Council of India and the Central Government has to approve. The process may take time and would face opposition too. The concept of Post MS Training was mooted to overcome the difficulties expressed in increasing the duration of existing course. There is a scheme of Senior Residency of three-year duration in the Central Government institutions and in other centres like All India Institute of Medical Sciences, PGIMER, Chandigarh. The scheme is providing opportunity to improve one's own skills, besides this, the three years experience gained as a Senior Resident would make the person eligible for appointment as Assistant Professor in Medical Colleges as it is an essential requirement recommended by the Medical Council of India (1998) for such appointment.

Senior Residents are treated as temporary government employees and enjoy the privileges like leave, house rent allowance etc. Steps should be taken by the State Governments and Universities to make this scheme compulsory. However, if this scheme were to be introduced in all institutions, it would involve a major financial outlay for institutions run not only by government but also by private management. Until such time Senior Residency scheme is made compulsory, post MS training may be offered on an optional basis. Training may be imparted in institutions that are recognised for this purpose by the University or the ASI. This recognition may be awarded to institutions that apply for it, after assessment of the training potential of the institution and its staff. The assessment be based on the qualification of the staff, bed strength and workload of the institution. The duration of optional Post MS training was discussed at length. A period of one to three years was considered. It was felt that the student may be given the option to take up this training programme in a recognised institution for a period ranging from one to three years. This period should be considered as an appointment and the candidate be paid remuneration. The possibility of exploitation of such candidates was considered. However, it was felt that adequate safeguards built into the system could guard against such exploitation.

# **RECOMMENDED BOOKS AND JOURNALS**

## **TEXT BOOKS**

1. Charles V. Mann, R.C.G. Russell, Norman S. Willians, Bailey and Love's Short Practice of Surgery, 23rd Edition, 2000, Chapman & Hall
2. David C. Sabiston : Text book of Surgery : The Biological Basis of Modern Surgical Practice, 15th Edition, 1971, W.B. Saunders
3. Seymour I. Schwartz, G. Tom Shines, Frank C. Spencer, Wendy Cowles Husser : Principles of Surgery, Vol. 1 & 2, 7th Edition, 1999, Mc.Graw Hill
4. JSP Lumley : Hamilton Bailey's Physical Signs, 18th Edition, 1997, Butterworth/ Heinemann.
5. R.W.H. McMinn : Last's Anatomy : Regional and Applied, 10th Edition, 1999, Churchill Livingstone
6. Sir Charles Illingworth, Bruce M. Dick, A Text Book of Surgical Pathology, 12th Edition, 1979, Churchill Livingstone.
7. K. Das : Clinical Methods in Surgery, 8th Edition, 1968, Suhas Kumar Dhar, Calcutta
8. R.F. Rintoul : Farqharson's Text Book of Operative Surgery, 8th Edition, 1995, Churchill Livingstone
9. Somen Das : A Practical Guide to Operative Surgery, 4th Edition, 1999, S. Das, Calcutta.
10. Pankaj Patel, V.V. Dewoodkar, Handbook of Surgical Instruments for Undergraduates, 1992, Bhalani Publishing, House
11. R.A. Jamieson and A.W. Kay : Text book of Surgical Physiology, Lavingstone.
12. James Kyle : Pye's Surgical Handicraft, Indian Edition, K.M. Varghese Company.

## **REFERENCE TEXT BOOKS**

1. William F. Ganong : Review of Medical Physiology, 2000, Lange Medical Publication
2. Roshan Lall Gupta : Year Book of Surgery, (Series) Jaypee Brothers
3. Roshan Lall Gupta : Recent advances in Surgery, (Series) Jaypee Brothers
4. I. Taylor and C.D. Johnson : Recent Advances in Surgery, (Series) Churchill Livingstone.
5. Lloyd M. Nyhus, Robert J. Baker and Joseph E. Fischer : Mastery of Surgery Vol. 1 & 2, 3rd Edition, 1997, Little Brown & Company.
6. Peter J. Morris and Ronald A Malt : Oxford Text Book of Surgery, Vol. 1 & 2, 1994, Oxford University Press
7. Charles Rob and Rodney Smith : Operative Surgery (All Volumes), 2nd Edition, 1971, Butterworths.

8. C. Palanivelu : Art of Laparoscopic Surgery, 1999, Paras Publishing
9. Michael J. Zinner, Seymour I. Schatz and Haroid Ellis : Maingot's abdominal operations, Vol.1 & 2, 10th Edition, 1997, Prentice Hall International.
10. Kevin G. Burnand and Anthony E. Young : The New Aird's companion to surgical studies, 1992, Curchill Livingstone.
11. Guyton : Text Book of Medical Physiology, 9th Edition, 1998, W.B. Saunders.
12. Hamilton Bailey : Emergency Surgery, 1999, Butterworth
13. Cuschieri : Essentials of Surgical Practice, 3rd Edition, 1995, K. M. Verghese Company
14. Goliger : Surgery of the Anus, Ractum and Colon.
15. Lee McGregor : Synopsis of Surgical Anatomy, 12th (Indian) Edition, 1998, K. M. Verghese Company
16. W.T. Irvine : Modern Trends in Surgery, Series, Butterworths

## **REFERENCE BOOKS**

1. Irving Taylor, Timothy G. Cooke and Perra Guillou : Essential General Surgical Oncology, 1996, Churchil Livingstone .
2. James A, O'Neil, Marc I. owe, Jay L. Grosfeld, Eric W. Fopnkalsrud and Amold G Coran : Pediatric Surgery, Vol.1 & 2, 5th Edition, 1998, Mosby
3. Anthony S. Fauci and Others : Harrison's Principles of Internal Medicine, Vol. 1 & 2, 14th Edition, 1998, Mc Graw Hill
4. Sheila Sherlock and James Dooley : Diseases of the Liver and Biliary System, 10th Edition, 2000, Blackwell Scientific Publication
5. Incent J. Devita, Samuel Hellman and Steven A. Roseberg, Cancer : Principles and Practice of Oncology, 6th Edition, 2000, Lippincott
6. Blumgart : Surgery of Liver & Biliary Tract, Vol.1 & 2, 2nd Edition, 1994, Churchil Livingstone
7. Campbell and Smith : Urology, Vol.1, 2 & 3, 5th Edition, 1986, W.B. Saunders
8. Smith : General Urology
9. Grab and Smith : Plastic Surgery, 5th Edition, 1997

## **JOURNALS FOR REFERENCE**

- Indian Journal of Surgery
- British Journal of Surgery
- American Journal of Surgery
- Surgery International
- New England Journal of Medicine

Surgery, Gynaecology & Obstetrics  
Year Book of Surgery  
Surgical Clinics of North America  
Lancet  
British Medical Journal  
Urological Clinics of North America  
Indian Journal of Medical Research

## **ADDITIONAL READING**

1. Compondium of Recommendations of Various Committees on Health and Development (1943-1975) DGHS, 1985 Central Bureau of Health Intelligence, Directorate General of Health Services, Min. of Health and amily Welfare, Govt. of India, Nariman Bhawan, New Delhi, P - 335
2. National Health Policy : Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983
3. Samosh Kumar : The Elements of Research, writing and editing 1994, Dept. of Urology, JIPMER, Pondicherry
4. Srinivasa D K etal : Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMEP, Pondicherry
5. Indian Council of Medical Research : "Policy Statement of Ethical considerations involved in Research on Human Subjects", 1982, I.C.M.R., New Delhi.
6. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.
7. Francis C M : Medical Ethics, Jaypee Publications, Bangalore, 1993.
8. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.
9. Internal National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991, 424-8
10. Kirkwood B.R. : Essentials of Medical Statistics, 1st Ed., Oxford, Blackwell Scientific Publications 1988.
11. Mahajan B.K. : Methods in Bio-statistics for Medical Students, 5th Edition, New Delhi, Jaypee Brothers Medical Publishers, 1989.
12. Raveendran B Gitanjali : A Practical approach to PG dissertation, New Delhi, Jaypee Publications, 1998.
13. R.K. Chaube : Consumer Protection Act and Medical Profession, 1st Edition, 1999, Jaypee Brothers.

# **Recommendations**

The main emphasis of the deliberations during the seminar was on restructuring of curriculum focusing on identification of knowledge and skills which were considered essential ('Must know' & 'Must Do'), suggest an array of teaching / learning activities that facilitate acquisition of higher intellectual and cognitive abilities and offer graded responsibility for developing competence in surgical skills and improve methods of assessment of learning progress during as well as at the end of the course. A number of recommendations were made for the implementation of the curriculum . They are as follows:

## **1. Admission to Postgraduate course**

- i) The selection to postgraduate courses should be strictly on the basis of academic merit. This should be applicable to admissions in government, non-government and private institutions. The merit should be determined by competitive entrance test conducted by universities or an agency authorised by the Government of India preferably the latter. The minimum percentage of marks to be eligible for admission to postgraduate course shall be as per the draft recommendations of the Medical Council of India (1999).
- ii) Reservations of seats shall be made as per the policy of Government of India.
- iii) The Medical Council of India (MCI) should make serious efforts to introduce aptitude testing also as part of admission test.

## **2. Number of Seats**

The Government of India, Medical Council of India and State Governments should make a medical manpower survey and assess requirement for each State and agree to train only such number as is required to meet the need. In the interim period, there should be a moratorium to the total number of candidates admitted for PG course in Surgery. It was recommended that not more than 6 to 8 students should be admitted per year in an institution for M. S. General Surgery course to maintain quality.

## **3. Duration**

The minimum period of three years fixed by the Medical Council was considered inadequate to train a surgeon to practice independently. In view of this, three options were considered and following recommended.

- i) To increase the duration from the existing three years to five years. However, it may be impractical to extend the course at this point of time because of economic and other implications. Therefore, this may be taken up as a long term measure by the Medical Council of India and Government of India.
- ii) To introduce Post MS training of three years duration on the lines of existing residency scheme. The medical colleges belonging to state governments and to private managements should introduce the scheme as early as possible.
- iii) The above two recommendations may take some time for implementation in view of policy, economic and other implications. There is however, an urgent need to improve the quality of existing training. In view of this and since the revised curriculum is within the broad frame work of MCI Regulations, the MCI may endorse the revised curriculum prepared during the Seminar and recommend to the Universities for implementation from next academic year.

#### 4. Revised Curriculum

Every college to reorganize the course by incorporating :

- i) Goals and Objectives which describe the knowledge, skills and more particularly the Human values, Ethical practice and Communication abilities that every student should demonstrate at the end of the course.
- ii) Essential Knowledge: Systematic teaching courses be drawn up by every college to facilitate acquisition of knowledge. An array of teaching learning activities have been identified. Weekly time table be drawn and departments ensure regular conduct of the programme as well as participation by students and faculty members. The training activities should focus on developing knowledge and higher cognitive abilities (*like problem solving etc.*) through different learning methods and approaches. The different methods, frequency and the prescribed minimum number of activities for each postgraduate student be followed.
- iii) Essential Skills: Emphasis in the course be directed towards providing hands on opportunities to acquire the core surgical skills. For this purpose graded responsibilities be given and the supervisors should ensure that every candidate:
  - washes up and *observes procedures* as mentioned in the list as (O)
  - has *assisted* a more senior surgeon (A)
  - has *performed the procedures* under direct supervision and with the assistance of senior surgeon/consultant (PA)
  - *performs procedures independently* listed as (PI)

Continuous appraisal and regular assessment be made throughout the course.

iv) The knowledge base for surgeons has to be wide in the present context. The revised curriculum emphasizes on the need of relevant basic science subjects, prudent selection of investigations, rational use of drugs, surgical nutrition, trauma management, surgical intensive care, use of computers and information technology tools and principles of modern high technology surgery. It is also necessary to inculcate the principles of ethical surgical practice. Further, sessions on principles of socially responsible surgical practices be included.

## 5. Teaching Learning Methods

i) Teaching and learning activities be based on adult learning principles. Competence Based Training model be adopted gradually.

ii) Structured Training with graded responsibilities

The course content and the training be structured to provide appropriate graded responsibilities during the I, II and III year of the course so as to enable the students to carry out increasingly complex procedures.

## 6. Rotation posting in other departments

i) A scheme of posting in Basic sciences departments (Anatomy, Physiology) during second half of the first year was recommended.

ii) Posting for Surgical Pathology and in Radio Diagnosis (Imageology) were recommended throughout the course.

iii) Training in trauma care, basic anaesthetic techniques were considered as core skills and four weeks posting in Anesthesia including Intensive care and 8 weeks posting in Orthopaedics were recommended during II year.

iv) A four months rotation posting (one month each) in four surgical specialities (Plastic, Vascular, Oncology and Urology) were recommended; further 2 weeks posting in each of the departments of Neurosurgery and Cardiothoracic Surgery was recommended.

v) Altogether, the postings in various core and other surgical speciality departments be limited to eight months during the II year of the course.

vi) Intra departmental Rotation: Rotation of students among the various surgical units (at least two other than the parent unit) be done. For each student, designate a preceptor who would be a guide, counselor and philosopher.

The departments according to the local needs and requirements may work out the schedule for the rotation posting.

## **7. Dissertation**

Dissertation work was considered essential as it provides opportunity to learn research methodology and writing scientific papers. Registration of topics based on review of protocol (synopsis) submitted by students be introduced. Dissertation work should be submitted 6 months before the final examination and acceptance should be a precondition to appear in final university examination.

## **8. Internal Assessment**

- i. Should be continuous and be done on person to person basis, by the guide, assisted if necessary by other staff members in the department and certified by the Head of the Department.
- ii. Internal Assessment should be objective based on various tests, records maintained in logbook, work dairy and from checklists.
- iii. The student must show steady progress year to year in all aspects of study and acquisition of knowledge and skills before he is allowed to proceed further and finally allowed taking up the examination.

## **9. University Examination**

- i. Adopt postgraduate examination system as followed by the Rajiv Gandhi University of Health Sciences, Karnataka .
- ii. Theory ( written) examination should consist of four question papers. Questions on basic sciences and recent advances may be asked in all the papers. The answer scripts are to be coded before sending for evaluation. All the four examiners should evaluate the scripts independently and assign marks or grades as the case may be.
- iii. The criteria for a pass in the final University examination should be that a candidate secures in theory examination, an aggregate of 50% of total marks prescribed for the four theory papers, provided the candidate has secured a minimum of 40% of total marks prescribed for each paper, and 50% of total marks prescribed for clinical examination including viva-voce. Further, a candidate shall secure the minimum 50% of marks in each of the two components, i.e. theory and practical/clinical including viva-voce separately in the same examination to be declared as pass.

## **10. Post M. S. Training**

Varying periods from one to three year of post M. S. training was recommended to enable a candidate who has just passed to acquire additional skills as well as to develop confidence. This may be on the pattern of Residency Scheme notified by

the Government of India. However, the post M. S. Training was not considered essential for those seeking higher studies like M.Ch., as it is not a prerequisite recommended by the Medical Council of India and also for those who are already in service.

- ii. The Post M. S. Training may be voluntary for the time being. As already stated the medical colleges belonging to state governments and to private managements should introduce the scheme as early as possible.
- iii. For the purpose of Post M. S. Training either the Medical Council of India or National Board of Examination or the Association Surgeons of India in conjunction with regional universities should accredit institutions and individual surgeons for such training purpose. It should be ensured that the trainees are adequately compensated for service rendered by them to training hospitals while undergoing training. An informal system of assessment be made at the end of training before certification.

## Checklists for Internal Assessment

(Note: These are model checklists. Modifications to suit local requirements may be made)

### Checklist – I MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Article chosen was					
2	Extent of understanding of scope & objectives of the paper by the candidate					
3	Whether cross references have been consulted					
4	Whether other relevant publications consulted					
5	Ability to respond to questions on the paper / subject					
6	Audio-Visual aids used					
7	Ability to defend the paper					
8	Clarity of presentation					
9	Any other observation					
<b>Total Score</b>						

**Checklist - II MODEL CHECK-LIST FOR EVALUATION OF  
SEMINAR PRESENTATIONS**

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Whether other relevant publications consulted					
2	Whether cross references have been consulted					
3	Completeness of Preparation					
4	Clarity of Presentation					
5	Understanding of subject					
6	Ability to answer questions					
7	Time scheduling					
8	Appropriate use of Audio-Visual aids					
9	Overall Performance					
10	Any other observation					
<b>Total Score</b>						

### Checklist - III MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student:

Name of the Unit Head:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Regularity of attendance					
2	Punctuality					
3	Interaction with colleagues and supportive staff					
4	Maintenance of case records					
5	Presentation of cases during rounds					
6	Investigations work up					
7	Bedside manners					
8	Rapport with patients					
9	Counselling patient's relatives for blood donation or PM					
10	Over all quality of Ward work					
<b>Total Score</b>						



**Checklist - IV EVALUATION FORM FOR CLINICAL CASE PRESENTATION**

Name of the Student:

Name of the Faculty:

Date:

Sl. No.	Items for observation during presentation	Poor	Below Average	Average	Good	Very Good
		0	1	2	3	4
1	Completeness of history					
2	Whether all relevant points elicited					
3	Clarity of Presentation					
4	Logical order					
5	Mentioned all positive and negative points of importance					
6	Accuracy of general physical examination					
7	Whether all physical signs elicited correctly					
8	Whether any major signs missed or misinterpreted					
9	Diagnosis: Whether it follows logically from history and findings					
10	Investigations required					
	Complete list					
	Relevant order					
	Interpretation of investigations					
11	Ability to react to questioning Whether it follows logically from history and findings					
12	Ability to defend diagnosis					
13	Ability to justify differential diagnosis					
14	Others					
<b>Grand Total</b>						

Please use a separate sheet for each faculty member

## **Checklist - V MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL**

Name of the Student: \_\_\_\_\_ Faculty member: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Sl. No.</b>		<b>Strong Point</b>	<b>Weak Point</b>
1	Communication of the purpose of the talk		
2	Evokes audience interest in the subject		
3	The introduction		
4	The sequence of ideas		
5	The use of practical examples and/or illustrations		
6	Speaking style (enjoyable, monotonous, etc., specify)		
7	Attempts audience participation		
8	Summary of the main points at the end		
9	Asks questions		
10	Answers questions asked by the audience		
11	Rapport of speaker with his audience		
12	Effectiveness of the talk		
13	Uses AV aids appropriately		

## **Checklist VI MODEL CHECKLIST FOR DISSERTATION PRESENTATION**

Name of the Student:

Faculty:

Date:

Sl. No.	Prints to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Interest shown in selecting topic					
2	Appropriate review					
3	Discussion with guide and other faculty					
4	Quality of protocol					
5	Preparation of Proforma					
<b>Total Score</b>						

**Checklist VII CONTINUOUS EVALUATION OF DISSERTATION  
WORK BY GUIDE / CO-GUIDE**

Name of the student:

Guide:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Periodic consultation with guide/ co-guide					
2	Regular collection of case material					
3	Depth of analysis / Discussion					
4	Departmental presentation of findings					
5	Quality of final output					
6	Others					
<b>Total Score</b>						

### Checklist VIII OVERALL ASSESSMENT SHEET

Sl. No.	Faculty Member	Name of student and Mean Score									
		A	B	C	D	E	F	G	H	I	J
1											
2											
3											
4											
5											
6											

Signature of HOD

Signature of Principal

The above overall assessment sheet used along with the log book should form the basis for certifying satisfactory completion of course of study, in addition to the attendance requirement.

**Key:** Faculty member: Name of the faculty doing the assessment. Mean score is the sum of all the scores of checklists I to VII. A, B,... Name of the student.

# LOG BOOK

**Table 1. Academic activities attended.**

Name: \_\_\_\_\_ Admission year \_\_\_\_\_  
College \_\_\_\_\_

# LOG BOOK

**Table 2 : Academic presentations made by the student**

Name: \_\_\_\_\_ Admission year \_\_\_\_\_  
College \_\_\_\_\_

## LOG BOOK

**Table 3 : Diagnostic and Operative procedures performed**

Name: \_\_\_\_\_ Admission year \_\_\_\_\_  
 College \_\_\_\_\_

Date	Name	ID No.	Procedure	Category O, A, PA, PI*

\* Key : O - Washed up and observed  
 A - Assisted a more senior Surgeon  
 PA - Performed procedure under the direct supervision  
 of a senior surgeon  
 PI - Performed independently

## LIST OF PARTICIPANTS

Dr. B.M. Agadi  
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Agadi Nursing Home  
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# SEMINAR ON POST GRADUATE TRAINING IN SURGERY

**April 14th and 15th, 2000**

## PROGRAMME

### **DAY 1 - 14th April**

10.30 a.m.	Inauguration	
11.10 a.m.	Tea	
11.30 a.m.	Experience of Surgeons Practising in rural Area Dr. K. Dakshina Moorthy	
12.00 p.m.	Introduction to Components of Curriculum : Dr. D.K. Srinivas	
12.30 p.m.	Introduction to Objectives Dr. Nanda Kumar Jairam	
12.45 p.m.	Introduction to Teaching Learning Activities : Dr. K. Lakshman	
01.00 p.m.	Introduction to Evaluation : Dr. C.R. Ballal	
<b>01.30 p.m.</b>	<b>Lunch</b>	
03.00 p.m.	Group work on <ul style="list-style-type: none"> <li>1) Objectives               <ul style="list-style-type: none"> <li>(a) Essential knowledge &amp;</li> <li>(b) Essential Skills</li> </ul> </li> <li>2) Training/Learning Activities               <ul style="list-style-type: none"> <li>(a) Teaching methods for acquiring knowledge</li> <li>(b) Year wise training schedule for skills</li> <li>(c) Training in basic &amp; Allied Departments</li> <li>(d) Training in superspecialities</li> <li>(e) Post M.S. training/apprenticeship</li> </ul> </li> <li>3) Evaluation               <ul style="list-style-type: none"> <li>(a) Internal assessment - (Monitoring learning progress)</li> <li>(b) University Examination</li> </ul> </li> </ul>	
05.00 p.m.	Tea	

### **DAY 2 - 15th April**

9.00 to 12 Noon	Plenary presentation by groups Each group 15 mts. for presentation and 10 mts. for discussion.
12 to 1 p.m.	Valedictory Session Presentation on Draft Recommendations & Strategies for Future Action. Closure
1.00 p.m.	Lunch

## PARTICIPATING GROUPS

Topics	Chairman	Rapporteurs	Members
1(a) Essential knowledge	Dr. R.H.N. Shenoy	C.R. Ballal U.V. Rao	Anil Thakkar T.K. Sen M.G. Bhat D.K. Acharya S.K. Shukla
1(b) Essential Skills	Dr. U. Seshadri	S Ramesh Nanda Kumar	C.R. Chhalani Dakshina Murthy P S Maiya D P Joshi
2(a) Teaching & Learning Activities	Dr. Dave P.K.	M H Krishnan M Vijayakumar	P Shivalingam Arun Mahajan Brar Malti Gupta
2(b) Year wise Training for Skills	Dr. N. B. Amaresh	Jothiramalingam K C Janardhan	K R Srimurthy S B Belani Udayshankar
2(c) Basic and allied departments	Dr. Shyamsunder	C S Rajan B A Anantharam	V B Reddy Anil Behl C S Kantharaj Ramesh Bilimagga P M Chandrashekhar Mary Olapally Hoysala Srinivasa Gowda L Krishna
2(d) Super specialties	Dr. T. Dorairajan	Susheela Sripad S S Sastry	Y S Rai K N Parimelzhagan Gurumurthy D Somashekaraiah
2(e) Post MS Training	Dr. J. C. Sharma	A K Pujahari K Lakshman	Ashok Ladha Philip Thomas B M Agadi Shivasubramanian B V Ramalinga Shetty
3(a) Internal assessment	Dr. A. F. Mascernhas	Dinkar Pai B S Thiruvadanan	S K Kochhar Bijoy Majumdar K T Phillipose Anantharam
3(b) University Examination	Dr. S. Chandrashekhar Shetty	Dinesh Babu	Sadashiva Murthy K Ramdev Haribhai Patel

## DISCUSSION POINTS FOR GROUPS

### ***Group 1a – Essential Knowledge***

A list of objectives related to knowledge and higher cognitive abilities that are expected to be achieved during the course is given. The course contents have been identified and categorized as essential knowledge as under. This is to enable the student to achieve the objectives. Kindly review the two lists, deliberate and make recommendations as to whether they may be included in the curriculum.

### ***Group 1b – Essential Skills***

A list of possible skills that the student must have done during the MS course, is attached. Give your suggestions regarding additions and deletions to the same and recommend for inclusion in the proposed curriculum.

### ***Group 2a – Teaching Learning Activities***

A list of teaching / learning activities is given below. These are directed towards improving knowledge, understanding, comprehension, analysis etc., i.e., higher cognitive abilities.

Please discuss and recommend:

1. Which of these activities may be include in the course?
2. How often should each candidate attend these activities?
3. How many times in a year should each candidate present journal, clinical cases etc.
4. Should there be :
  - Didactic chapter wise surgical teaching?
  - Case related teaching and learning?
  - Examination question paper answering?
  - Should there be formal teaching of Research methodology and ethics?

### ***Group 2b – Year wise training schedule for skills***

It has been recommended by many teachers and MCI that graded clinical responsibilities are to be given to the students.

Please discuss and suggest amendments, if necessary, to the list of surgical procedures.

Please categorise the list as those “(1)for demonstration/observation”, “(2) to be performed under assistance” and “(3)to be done under supervision” and “(4) to be done independently”.

## Procedures

Year	Observe 1	Assist 2	Do under supervision 3	Do independently 4
First				
Second				
Third				

Suggest methods of teaching of skills listed, to meet the requirements. If any skills perceived to be essential are left out, you may please add them.

***Group 2c – Basic and allied specialities***

Topics to be taught and duration posting in various basic and allied specialities is to be specified.

1. In which of the basic sciences and para clinical subjects should posting be done? if so, how long (duration) and at what stage of the course?
2. What should be taught or revised in applied anatomy, physiology, bio-chemistry?
3. How will teaching in surgical pathology be organized ?
4. How will learning be monitored and by whom?
5. Should there be posting in the following allied subjects? Please also suggest the duration, timing of the posting and the course contents.
  - I. Anaesthesia and ICU
  - II. Orthopaedics
  - III. OBG
  - IV. ENT
  - V. Ophthalmology

***Group 2d – Training in super specialties***

Should there be postings in the departments listed below?

Which of these should be core subjects? And which, optional?

What should be the duration of the postings?

When in the course should the postings be made?

The following is a list of knowledge (must know) and skills to be acquired during the postings. The skills list has been categorized into those which are to be done independently and those in which the candidate would have assisted. Kindly suggest amendments, if any, to the list.

### ***Group 2e – Post MS training***

- Duration
- Skills to be taught
- Continued acquisition of knowledge
- Evaluation and certification
- Training in :
  - Parent institution
  - Other accredited hospitals
  - Interested accredited individuals
- Accreditation / certification of trainers to maintain standards
- Training of trainers in training methodology
- Mechanisms for payment / allowances for the candidates.

### ***Group - 3 EVALUATION***

#### ***Group : 3(a) Internal assessment (Monitoring Learning Progress)***

1. Which areas in the training to be monitored continuously ?
  - Acquisition of knowledge
    - Journal clubs, CPCs, Seminar etc.
  - Development of clinical skills
    - OPD & ward work
  - Teaching / Communication
  - Dissertation work
2. How to do, how often and by whom ?
3. What records are to be maintained eg: Log books, Dairy.
4. What particulars should be recorded ?
5. Is there any need for checklists for assessing ?
6. Should monitoring be done by all staff and fellow PG students (peers) to overcome bias or subjectivity ?

7. What should be done to defaulters ?
8. Should members for participation in various teaching and learning activities and operative procedures be specified ? If so, please suggest minimum numbers.

### Group : 3 (b) University Examination

#### i) *General Aspects*

At present the distribution of marks for different components as per Medical Council of India are:

Theory (Written)	:	400 }
Clinical Exam	:	200 }
Viva-Voce	:	100 }

1. The proportion of marks for theory (written) is higher than clinical and viva-voce. Should it be so for skill based subjects like Surgery ?

#### ii) *Clinical Examination Aspects*

The abilities to be tested and measured during clinical and viva-Voce are :

Ability to :

- a. obtain history from a patient
- b. carryout systematic physical examination
- c. arrive at a provisional diagnosis from the information obtained
- d. select appropriate investigations
- e. interpret the results of investigations
- f. recommend appropriate treatment
- g. inform/educate/counsel patients/family (communication ability)

1. To what extent does the present method of examination, test the above abilities.
2. Who to make the clinical and viva more comprehensive and valid ?  
(Note validity reasons - does the test or method used measure what was intended to measure?)
3. Should we have long case and short cases or one case from each major system ?
4. Should ward rounds be included ?
5. Operative surgery - should it become part of university examination ? Alternatively, should it be restricted to internal assessment.
6. Should clinical and viva be for 2 days instead of one day ?
7. Often it is alleged that the examiners do not observe the actual clinical examination done by students. How can this be improved ?

***iii) Viva-Voce Examination Aspects***

8. What should be the purpose of Viva-Voce ?
9. Which of the activities listed above should be tested in viva ?
10. Should there be a minimum duration specified for viva? If so how much ?
11. Should it be conjoint or by each examiner separately ?
12. How can viva-voce examination be improved ?

**Criteria for Pass**

13. Should there be minimum passing marks for each paper (say 40%) and aggregate of 50% for all papers combined.
14. Should a candidate pass in each component i.e. written, clinical and viva respectively or should marks of viva be combined with clinical or written /
15. Should chapters be specified for each paper ?

## ANALYSIS OF PROGRAMME EVALUATION

(Number of responses = 32)

The detailed analysis is as under:

1. Were the Purpose and Objectives of Seminar : Very useful = 26, Useful = 6
2. Was the duration of the Seminar : Adequate = 29, Too short = 3, Too long = 0
3. The methods adopted in the seminar encouraged active participation :  
To a great extent = 28, To some extent = 3, No response = 1
4. There was frank and friendly discussion :  
To a great extent = 29, To some extent = 3
5. Were the background papers found : Useful and relevant = 30, No comments = 2

### Suggestions :

1. Have similar seminars once in 2-3 years
2. Well done, keep it up.
3. Background papers should have been given earlier.
4. An MCI representative should have participated.
5. Needs follow-up with MCI.
6. Involvement of ASI is appreciated.
7. Other Health Universities should have participated.
8. More number of VCs should have participated.
9. ASI to have year wise database of total candidates appeared and passed.
10. Reduce the number of MS surgery seats in medical colleges.
11. Impart more practical training.
12. Post MS training to be one year before awarding degree.
13. Post MS training should be 4 years / 3 years but not compulsory.
14. Duration of seminar should be 2 to 2½ days and group work in 2 sessions.
15. Evoke students to be curious to learn by themselves rather than depend on teacher.
16. More young teachers and surgeons should have been involved.

### Factors facilitating participation in the Seminar

1. Small cohesive groups for group discussion.
2. Open exchange of ideas
3. Co-operation of chairman
4. Location of venue was considered ideal
5. Background paper was very informative
6. Presentations prior to group discussions were very informative
7. Discussion of post MS training was interesting
8. Concerns expressed about decline in standards of PG training
9. Presentation on and discussion about rural surgery was good
10. All India wise participation of surgery teachers was noted.
11. Preparation of lists of knowledge and skills.
12. Participation by the University officials.
13. Well conducted
14. Resource persons
15. Interdisciplinary group

### Factors hindering participation in the seminar

1. None	=	29
2. Background paper received late	=	1
3. Limited time for discussion	=	1
4. Short notice	=	1

Note : Figures indicate the number of responses.

## **ACKNOWLEDGEMENT**

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1. Professor S.Chandrashekhar Shetty, the Vice Chancellor of the Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore, for jointly sponsoring the seminar, participating in the seminar on both the days and for the financial assistance.
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4. The Governing Council of the Association of Surgeons of India for approving the seminar and for financial assistance.
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10. Dr.K.P.Sheka, Chairman, Department of Surgery, Coney Island Hospital, Brooklyn, New York, for providing information regarding the Post Graduate Training in Surgery in U.S.A.

11. For all the delegates, drawn from different parts of the country for sparing their valuable time to attend the seminar and for their active participation.
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16. M/s Aristo Pharma for hosting a dinner for the delegates.
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